Version: E140702

ALGE-TIMING

Timy 3



Manual
General

Important Information

General

Before using your ALGE-TIMING device read the complete manual carefully. It is part of the device and contains important information about installation, safety and its intended use. This manual cannot cover all conceivable applications. For further information or in case of problems that are mentioned not at all or not sufficiently detailed, please contact your ALGE-TIMING representative. You can find contact details on our homepage www.alge-timing.com

Safety

Apart from the information of this manual all general safety and accident prevention regulations of the legislator must be taken into account.
The device must only be used by trained persons. The setting-up and installation must only be executed according to the manufacturer's data.

Intended Use

The device must only be used for its intended applications. Technical modifications and any misuse are prohibited because of the risks involved! ALGE-TIMING is not liable for damages that are caused by improper use or incorrect operation.

Power supply

The stated voltage on the type plate must correspond to voltage of the power source. Check all connections and plugs before usage. Damaged connection wires must be replaced immediately by an authorized electrician. The device must only be connected to an electric supply that has been installed by an electrician according to IEC 60364-1. Never touch the mains plug with wet hands! Never touch live parts!

Cleaning

Please clean the outside of the device only with a smooth cloth. Detergents can cause damage. Never submerge in water, never open or clean with wet cloth. The cleaning must not be carried out by hose or high-pressure (risk of short circuits or other damage).

Liability Limitations

All technical information, data and information for installation and operation correspond to the latest status at time of printing and are made in all conscience considering our past experience and knowledge. Information, pictures and description do not entitle to base any claims. The manufacturer is not liable for damage due to failure to observe the manual, improper use, incorrect repairs, technical modifications, use of unauthorized spare parts. Translations are made in all conscience. We assume no liability for translation mistakes, even if the translation is carried out by us or on our behalf.

Disposal



If a label is placed on the device showing a crossed out dustbin on wheels (see drawing), the European directive 2002/96/EG applies for this device.
Please get informed about the applicable regulations for separate collection of electrical and electronical waste in your country and do not dispose of the old devices as household waste. Correct disposal of old equipment protects the environment and humans against negative consequences!

Copyright by ALGE-TIMING GmbH

Declaration of Conformity

We declare that the following products comply with the requirements of the listed standards.

We, **ALGE-TIMING GmbH**
Rotkreuzstrasse 39
A-6890 Lustenau

declare under our sole responsibility, that the timing device

Timy3 W and Timy3 WP

is in conformity with the following standard(s) or other normative documents(s):

Safety: EN 60950-1:2006 + A11:2009

EMC: EN55022:2006+A1:2007
EN55024:1998+A1:2001+A2:2003
EN61000 3-2:2006 + A1:2009 + A2:2009
EN61000 3-3:2008

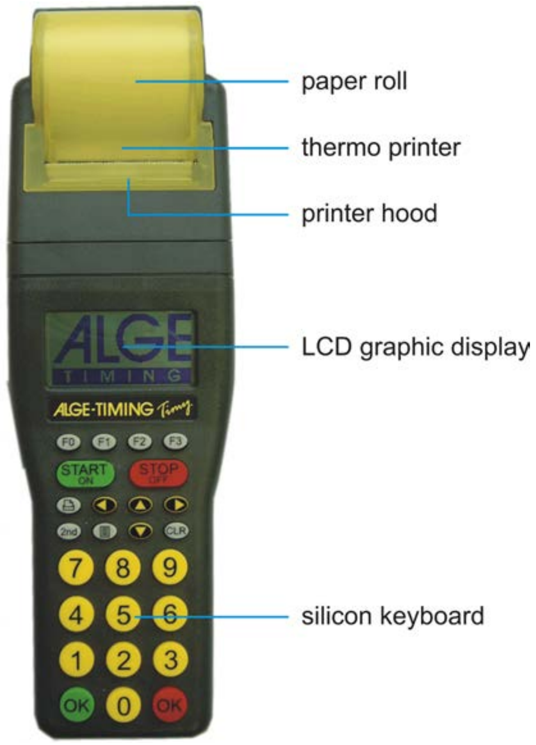
Additional Information:
The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC, also the EMC Directive 2004/108EG and accordingly carries the CE-marking.

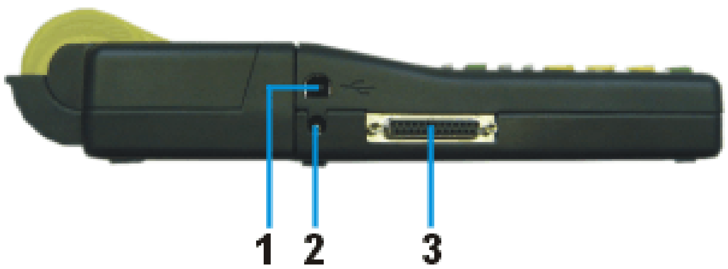
Lustenau, 03.10.2013

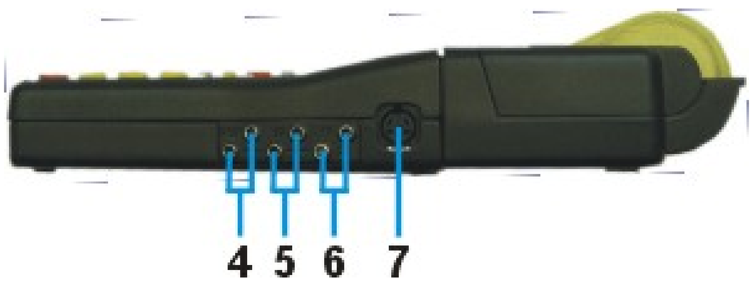
ALGE-TIMING GmbH

Albert Vetter
(General Manager)

Control elements







1 USB-interface
2 Charging socket
3 ALGE multiport
4 Connection for display board
5 Connection for start emitter (C0)
6 Connection for finish emitter (C1)
7 Standard ALGE photocell socket

Table of contents

1 Device Description

The ALGE TIMY3 is a handy device, equipped with high-quality technology.
During the development, we have paid special attention to the self-evident principles of ALGE-TIMING: ease of operation, extreme reliability and robust design. Latest technology, integrated in a casing especially designed for timing, result in a unique device.
In spite of the handy dimensions, the TIMY3 provides a large and easy-to-use silicone keypad. It can be operated easily in any weather condition and even with gloves. The model TIMY3 WP has an integrated printer that records the entire competition.
Of course, the TIMY3 is also equipped with the necessary interfaces for communication with external devices. It possesses an interface for display boards, an RS232 interface for communication with a computer, an RS485 interface to establish a network of timing devices and a future-proof USB interface.
The generously dimensioned memory of the TIMY3 can store up to 30,000 times. All memory times can be shown on the display or transmitted to a computer by RS232 or USB interface at any time.
The TIMY3 has additionally been equipped with an internal Wireless Timing Network modem of the WTN series. The integrated radio modem WTN allows linking the TIMY3 via radio with all devices of the WTN series.

For operating the TIMY3 with the internal radio module please also refer to the manual WTN.

1.1 TIMY3 Models

Both TIMY3 models are equipped with a temperature compensated quartz-oscillator and therefore suited for highest accuracy. The extended temperature range allows operating the TIMY3 from +50°C until -20°C (for summer and winter sports).

TIMY3 W:
TIMY3 W is a timing device without printer.



TIMY3 PXE:
TIMY3 PXE is a timing device with integrated printer.



1.2 TIMY3 Software

Available programs for the TIMY3:

Stopwatch:	universal timing program which is suitable for several heats (run/total time).
Backup:	to measure time-of-day times (e. g. as backup-system or as time reference for the computer)
PC-Timer:	to measure time-of-day times with simultaneous output of the running time in 1/10 seconds via the RS232 interface. Ideal as an accurate timing device for the computer
LapTimer:	timing program with run times and lap times (e. g. for motor sport)
TrackTimer:	timing program for events with several lanes, e. g. athletics and swimming
Training Lite:	universal training software (several intermediate times are possible)
Training REF:	training software with reference run (several competitors on course)
Speed:	speed measurement
Commander:	terminal for diverse subprograms (see manual)
CycleStart:	program for track cycling with countdown and lap counter
Terminal:	terminal for judges (e. g. gymnastics)
Wind Speed:	for measuring the wind speed, only with anemometer WS2
Parallel-Diff:	timing for parallel slalom (difference time of both slopes)
Dual Timer:	timing of two separate courses
Timeout:	timing with timeout, also applicable for show jumping (with start countdown)
Swim Trainer:	training program for swimming
Jumping:	training program for jump trials, measures jumping height on the basis of time between jump and landing on a contact mat (several subprograms)
Speed-Climbing:	timing for parallel competitions at speed climbing with false start
TV-Timer	simple timing program for controlling a display board or TV time flashs

1.3 Driver Installation

For installation of drivers, separate manuals are available. You can download them on our homepage www.alge-timing.com or contact your ALGE representative.

1.4 Keypad

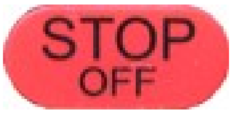
The TIMY3 has a weather-proof (water-proof) silicone keypad. The keypad is ideal for outdoor use. The keys are raised and have ideal pressure points. Although the TIMY3 is small in dimensions, they are easy to operate.



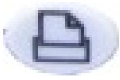
Control keys: all-purpose keys; the function of each one is always visible in the display.



START/ON: Key for manual start impulse and to switch on the TIMY3.



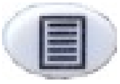
STOP/OFF: Key for manual stop impulse and to switch off the TIMY3.



Printer: Key for paper output. If you press the combination  and , you open the printer menu.



2nd: This key is always used in combination with a second key (additional function).



Menu: Key to enter the device menu.



CLR: Key to clear the marked times or to clear the memory.



Cursor: Keys to move the cursor in the display.



+ Beginning of a list



+ End of a list



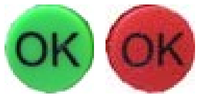
OK green: Switch on, confirm commands or start inputs

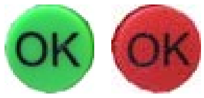


OK red: Switch off, confirm commands or finish inputs

1.5 Display of TIMY3

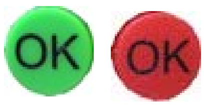
The TIMY3 has a display with backlight. The backlight makes reading of the display at bad light conditions easier. As the backlight consumes energy it is only switched on automatically when the TIMY3 is connected with an external power supply (e. g. PS12A). If you use the TIMY3 in battery mode you can switch on the backlight in the menu.

- Press menu key 
- Select <DISPLAY> with arrow down key 
- Press OK key (red or green) 

- Select <Back Light> with arrow down key 
- Press OK key (red or green) 

- The display shows: 

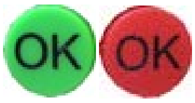
ENERGY-SAVE:	External Supply:	Display Back Light on (100% brightness)
	Battery Operation:	Display Back Light off
ON:	External Supply:	Display Back Light on (100% brightness)
	Battery Operation:	Display Back Light on (50% brightness)
AUTOMATIC:	after each key stroke or timing impulse the back light is on for 5 seconds	

- Choose desired light function with arrow down key 
- Press OK key (green or red) 

- Exit menu by pressing menu key 

1.6 Choose Language

Currently, you can choose between the following languages: German, English, French and Italian.

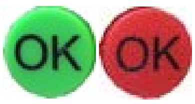
- Press menu key 
- Select <GENERAL> or <ALLGEMEIN> with arrow down key 
- Press OK-key (red or green) 
- Select <LANGUAGE> or <SPRACHE> with arrow down key 
- Press OK-key (red or green) 
- The display shows:



Display in German



Display in English

- Select desired language with arrow down key 
- Press OK key (green or red) 
- Exit the menu by pressing menu-key 

2 Start Up

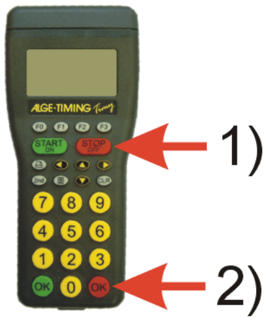
2.1 Switch On



- Press „START/ON" key
- Display shows:
  "Really switch-on? Press the green OK button!"
- If you press the green OK key within 10 seconds, the TIMY3 switches on, otherwise it automatically switches off.

2.2 Switch Off

You have got two possibilities to switch off the TIMY3:



Method 1:

- Press „STOP/OFF" key for 3 seconds
- Display shows:
  "Really switch-off? Press the red OK button!"
- If you press the red OK key within 10 seconds, the TIMY3 switches off, otherwise it returns to the program.

Method 2:



- Press „2nd" and „STOP/OFF" keys
- Display shows:
  "Really switch-off? Press the red OK button!"
- If you press the red OK key within 10 seconds, the TIMY3 switches off, otherwise it returns to the program.

2.3 Power Supply

The TIMY3 has several possibilities for power supply:

External supply +8 to 24 VDC:

- Power supply unit PS12
- Power supply unit PS12A , ideal as the Deltron socket remains free
- External battery e. g. 12V plumb rechargeable battery
- ALGE Display Board (e. g. GAZ4 or D-LINE)

NLG4 and **NLG8** must NOT be used as the off-load voltage is too high (TIMY3 might be destroyed!).
With external supply of at least 11.0 VDC, the internal rechargeable batteries are charged.

Internal supply:

The battery compartment has space for 6 batteries type AA or rechargeable batteries. For TIMY3 WP you have to use the heat-sealed rechargeable battery-packs ONLY!

Timy3	Timy3 W		Timy3 WP	
	-20°C / -4F	**20°C / 68F**	**-20°C / -4F**	**20°C / 68F**
Alkaline Batteries		about 100 hours	not possible	not possible
NiMH Rechargeable NM-TIMY2	about 50 hours	about 60 hours	about 31 hours	about 47 hours

This measurement took place without the TIMY3 supplying external devices (e. g. no supply of photocells) and for the WP with 3 printed lines per minute.

Battery types:

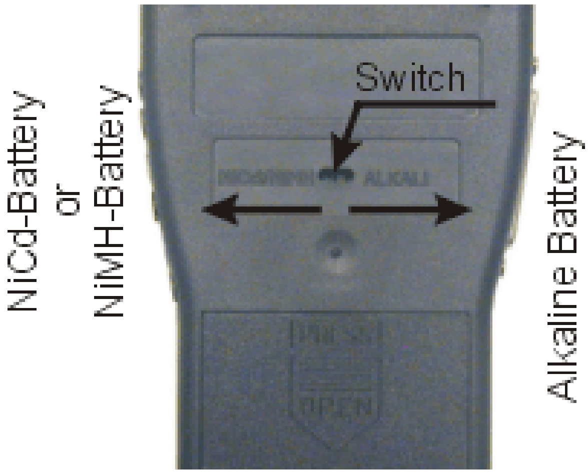
Alkaline batteries: These batteries must never be used in a TIMY3 with integrated printer. Alkaline batteries can only supply about 10 % of their original capacity at temperatures of -20°C. Thus they are only recommendable for warm weather. On environmental reasons it is also recommendable that rechargeable batteries are used.
NiMH battery pack NM-TIMY2: The NiMH rechargeable battery pack is recommended for every TIMY3. These newly developed batteries dispose of an enormous persistence even at very low temperatures and can supply a high current for the printer.

Charging:

The rechargeable batteries are charged inside the TIMY3 with charger PS12 or PS12A, no matter if the TIMY3 is switched on or off. The charging period with NiMH batteries (NM-TIMY2) takes with 1.5 Ah approx. 14 hours.

Charging Switch:

The TIMY3 has got a switch (hidden behind the battery label) for switching on or off the rechargeable battery charging.
Using alkaline batteries, the charging must be switched off -position ALKALI-, as otherwise the batteries may leak.
During the operation with rechargeable batteries, the switch should be on position NiCd/NiMH so that the rechargeable batteries are charged.



Attention: Never use alkaline batteries in a TIMY3 when the charging switch is set on NiCd/NiMH and a charger is connected.

Operating period:

The operating period depends on the TIMY3 model, the batteries utilized and the ambient temperature.

3 Printer

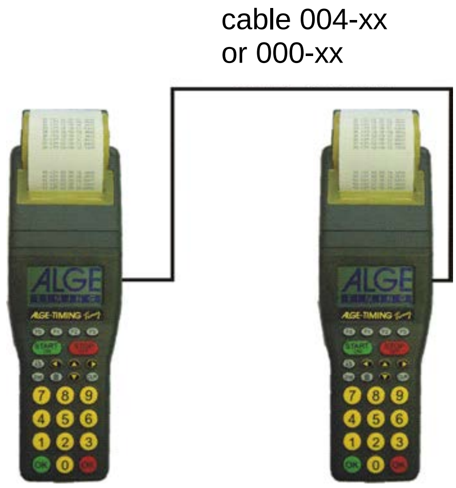
TIMY3 WP has an integrated thermal printer. The best paper for the printer is our ALGE paper. It is recognizable by the ALGE logo print on the reverse side, available with your ALGE representative.

3.1 Change of Paper

- open printer cap
- take out the paper axis
- place the axis inside the paper roll
- insert paper roll with axis into TIMY3
- thread paper through tear-off edge
- close printer cap

4 Synchronising

- connect TIMY3 with cable 000-xx or 004-xx to other timing devices.
- switch on the TIMY3
- clear or retain memory
- retain time and date or correct it and confirm or trigger with START key or via channel C0.



4.1 Synchronization of Other Devices with a TIMY3:

The TIMY3 can send a synchronization signal via channel 0 every full minute when using the programs BACK-UP or PC-TIMER.

- connect the TIMY3 with the device to be synchronized
- enter the time of day (next full minute) to be synchronized at the device
- press and hold both keys, the green and red OK key of the TIMY3; on the full minute the TIMY3 sends a synchronization impulse. The time of day of the timing device now runs.

5 Connection of Auxiliary Devices

A wide range of devices can be operated with the TIMY3. Please ask your ALGE representative for the possibilities.

5.1 Channels

The TIMY3 has 9 independent timing channels.

Attention: Channels 0 to 5 have a maximum precision of 1/10 000 seconds but channel 6 to 8 only 1/100 seconds.

5.2 Delay and Block Times

The variable delay and block times prevent generating double impulses and loosing impulses. The delay and block times can be changed in the menu.

5.2.1 Delay Time

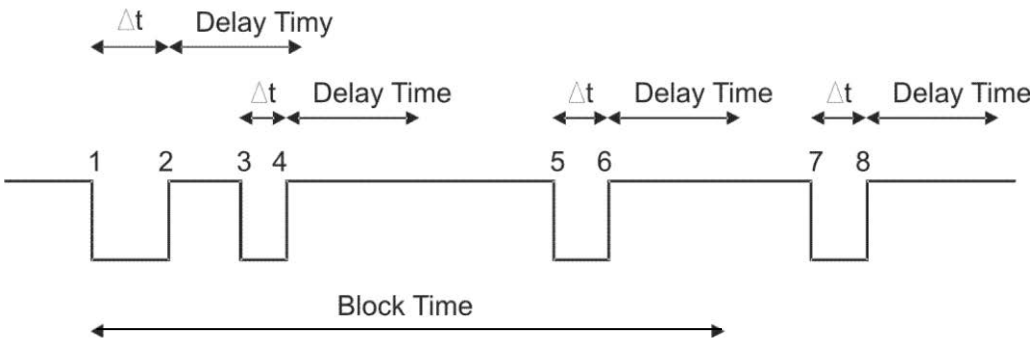
After triggering an impulse, further impulses of the same impulse channel are disabled for the duration of the delay time.

Base settings:	start channel	C0	1.0s
	stop channel	C1 to C9	0.3s

5.2.2 Block Time

The block time is the theoretic minimum interval between two valid impulses of the same channel. Impulses within the block time are saved as invalid. The block time is only supported by certain programs.
That is to say, for an interval start of 30 seconds the minimum clearance is approx. 20 seconds. Thus the block time is 20 seconds, too.

5.3 Diagram of Delay and Block Time



Δt timing channel triggered
1 timing channel is triggered – valid time is saved – block time starts
2 end of impulse – delay time starts
3 timing channel is triggered within the delay time – no impulse triggering
4 end of impulse – delay time restarts
5 timing channel is triggered within the block time – invalid time is saved but not printed
6 end of impulse – delay time starts
7 timing channel is triggered – valid time is saved – block time starts

6 TIMY3 Update

Please visit our homepage www.alge-timing.com for a free update for your TIMY3 software.

6.1 Update with Cable 205-02

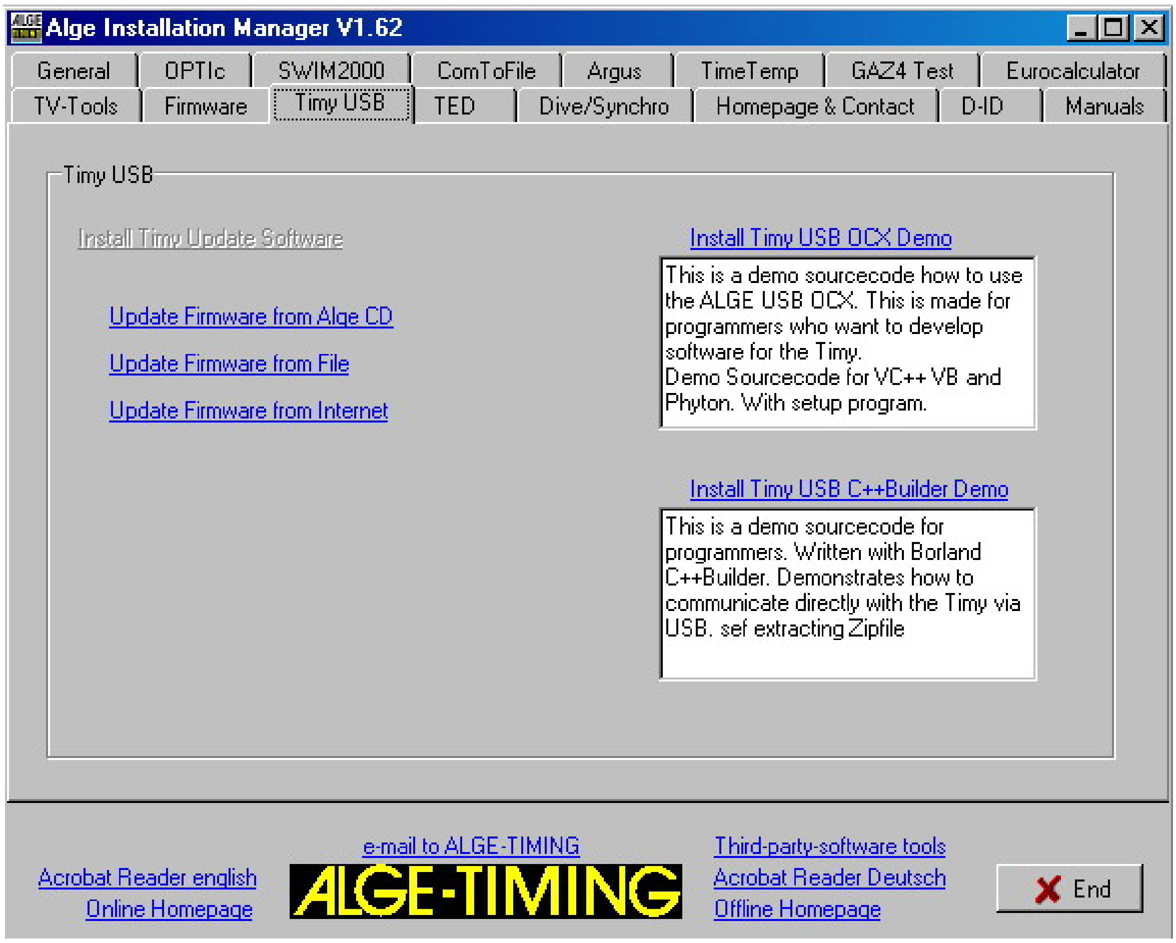
- log into the internet
- choose language
- click on „download“ in the left column
- click on „ALGE devices software (Flash Technology)“
- if not installed yet, download “*Install Manager*”
- open *Install Manager* and connect TIMY3 with cable 205-02 to the computer
- click on “firmware RS232” in the *Install Manager*
- the firmware automatically searches for the TIMY3
- switch on the TIMY3
- as soon as the firmware recognizes the TIMY3, the following is displayed



- Choose a method of updating the TIMY3. Recommendable is an internet update as the latest version is always available.

6.2 Update with USB Cable

- If not yet done, the TIMY3 USB driver has to be installed. An instruction for this can be found on our homepage.
- The TIMY3 USB driver can be found at *Download/PC software/Various Software:/Timy USB and Timy2 update*
- start the *Install Manager* and click on TIMY3 USB



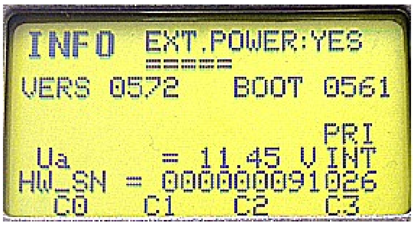
- choose method of update; details can be found at: Manual/Timy Driver Update

7 Memory

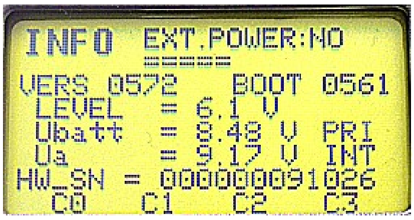
The memory of the TIMY3 can store approx. 30,000 times. When switching on, the memory can either be saved or deleted. The free and saved space is indicated.



8 Info Mode



Display with external supply



Display without external supply

Pressing the buttons 

 opens the info mode. Important data is displayed.

- external power supply Yes or No
- TIMY3 program version
- TIMY3 boot version
- battery voltage
- output voltage
- integrated printer
- hardware number
- state of timing channels (C0, C1, C2, C3)

9 GPS Synchronization

It is possible to synchronize the TIMY3 with a GPS mouse (GPS-TY). The synchronization can be effected with all programs and is a up to the 1/10 000 seconds exactly.

- The GPS mouse (picture: GPS 18LVC) needs no external power supply.
- The RS232 baud rate of the TIMY3 has to be set to 9600 Baud.
- In the menu <channels> the item <TED-RX> has to be deactivated.
- The GPS synchronizes the TIMY3. After this the TIMY3 runs with its own precision quartz and the GPS can be disconnected. The GPS Mouse can now be used to synchronize further devices.



Instead of the day time setting, the display shows as indicated on the right. As long as it says “NO SIGNAL”, the GPS receiver is searching for satellites.



When **“OK -UTC +UTC NO”** is displayed in the bottom line, the time for your region can be adjusted with keys <F1> and <F2>. As soon as the correct time is shown, press <OK>.



Attention!
After receipt of a valid GPS signal, the TIMY3 verifies the checksum and measures the duration of the sync signal. If the sync signal is erroneous, the TIMY3 carries out a reset. Thus it is impossible to generate an invalid sync time. If the TIMY3 is supplied by external power, it automatically restarts. In case of operation with internal power, the TIMY3 turns off and has to be restarted.

Remove the GPS receiver from the TIMY3. Press <OK> to start the selected program.



10 Menu

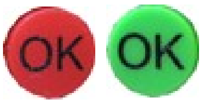
The TIMY3 menu allows you to adjust individual settings. Push  to access the main menu. With the cursor buttons you can navigate through the menu.

 enter or exit the menu

 navigate up or down

 next submenu

 previous menu

 Confirm input or choice

On the following pages the different menu items are described. The program specific menu settings are described in the separately available manuals for each program. Bold printed settings are the ALGE-TIMING factory settings.

10.1 CLASSEMENT

The ‘classement’ menu offers two different options.

10.1.1 ALL

Prints an overall ranking of different saved times. According to each program the following options are available:

- **<RUNTIME>** ranking sorted according to run time
- **<TOTALTIME>** ranking sorted according to total time
- **<PRINT MEMORY>** prints the memory of TIMY3
- **<MEMORYTIME>** prints times of previous heat
- **<PROTOCOLL>** prints a protocol of all times

10.1.2 CLASS

This prints a ranking list of one class. Subsequently, the bibs belonging to this class have to be chosen. Only one class can be printed at a time.

10.1.3 START LIST

This function prints the start list of the second heat.

10.2 GENERAL

In this menu item general settings regarding the timing can be made.

10.2.1 PREC-ROUNDING

Choose precision and mode for calculation of times. The bold printed setting is the factory setting.

10.2.1.1 PRECISION

This is for setting the calculation precision. Only for net times!

- <1s> calculated times in seconds
- <1/10> calculated times in 1/10 seconds
- **<1/100> calculated times in 1/100 seconds**
- <1/1000> calculated times in 1/1 000 seconds
- <1/10000> calculated times in 1/10 000 seconds

10.2.1.2 ROUNDING

All times are always calculated in day times in 1/10 000 seconds. For conversion to the runtime at the required precision, one of the following three methods can be chosen:

- **<CUT> cuts off the figures not displayed**
- <UP> rounds up the last displayed figure
- <ROUND> mathematical rounding of last displayed figure

10.2.2 CHANGE HEAT

Depending on the active program, this item enables moving on to the next heat.

10.2.3 STN-AUTOMATIC

The TIMY3 supports different types of automatic start number continuation for the competitors at start and finish.

10.2.3.1 START

This controls the start number continuation for competitors at the start.

- **<MANUALLY>**
- <UP>
- <DOWN>

10.2.3.2 FINISH

This controls the start number continuation for competitors reaching the finish.

- **<MANUALLY> no automatic continuation**
- <START> only 1 competitor on track from start to finish
- <FINISH**>** several competitors on track, according to starting order

10.2.3.3 AUTOMATIC-TIME

Set a minimum and maximum runtime. If an impulse is received before the minimum time has expired an invalid time is registered. If the maximum time has expired the finish start number is automatically forwarded to the next started competitor.

- <AUTOTIME-MIN> Standard: **00:00:00** = function disabled
- <AUTOTIME-MAX> Standard: **00:00:00** = function disabled

10.2.4 SEC-MODE

This function sets if runtime is displayed in min/sec or just sec. Not available in all programs

- **<NO> Runtime in hh:mm:ss.th**
- <YES> Runtime in ssss:th

10.2.5 LANGUAGE

You can adjust the following languages as defaults for the TIMY3

- <GERMAN>
- <ENGLISH>
- <FRENCH>
- <ITALIAN>
- ~~<SPANISH>~~
- ~~<SCHWEDISH>~~

10.2.6 STANDARD

Reset the TIMY3 to the factory defaults.

- <STANDARD-SETT>

10.2.7 HARDWARE

This menu is only available for our service technicians.

10.2.8 HARDWARE 2

This menu is only available for our service technicians.

10.2.9 PROGS ON OFF

As standard all programs are activated. The programs that are not used can be hidden to reduce the select list. Hidden programs can be activated any time in this menu again.

10.3 CHANNELS

Configuration of the timing channels:

10.3.1 INTERNAL

10.3.1.1 DELAY TIME

The delay time of the internal timing channels c0, c1, c2, c3, c4, c5, c6, c7 and c8 can be set. Delay time is the time after which the channel is blocked after an impulse, to prevent multiple impulses (see point 5.2).

- <DELAY START C0> **standard is 1.00 second**
- <DELAY C1-C8> **standard is 0.30 second**
- <DELAY C1> not always available!
- <DELAY C2>
- <DELAY C3>
- <DELAY C4>
- <DELAY C5>
- <DELAY C6>
- <DELAY C7<
- <DELAY C8>

10.3.1.2 0.1s-CORRECTION

If impulses are transmitted by the TED or an external WTN, the 0.1 seconds delay can here automatically be corrected for every channel. This function is not adjustable at the TIMY3 when the internal WTN is activated as the correction is then automatically activated.

10.3.1.3 EDGE

This is for setting of triggering the impulses either on closing and/or opening. Standard for all channels is on closing.

10.3.2 BEEP

This switches the channel beep on or off.

- <OFF>
- **<ON>** Factory default

10.3.3 TED-RX

This activates the multichannel reception by the TED-RX.

- **<OFF>** Factory default
- <ON>

ATTENTION! If this function is activated the serial interface is occupied by the TED.

10.3.4 CHANNEL-PATTERN

This menu is currently not available. Certain channels can be activated or deactivated.

10.3.5 WTN Delay

This function is only activated when the internal WTN is deactivated; i. e. if an external WTN is connected.

10.4 DISPLAY

This is for setting the TIMY3 display and scoreboard.

10.4.1 RUNNING TENTH

In the display and via interface the running time is issued in 1/10. Function not available for all programs. Factory setting: OFF

10.4.2 DELAYTIME 1

The delay time determines for how long the intermediate times are shown on display and scoreboard. The display time can be set e.g. for intermediate times of the running time in seconds. Moreover, this time is also applied for the automatic start number continuation at the finish. Factory default is **03** seconds.

10.4.3 DELAYTIME 2

This is for setting the display time for total time. Factory default is **03** seconds.

10.4.4 BACK LIGHT

This is to adjust the back light of the display. Factory default is <ENERGY SAVE>.

10.4.4.1 ENERGY SAVE

Backlight is switched on during external power supply, switched off during battery supply.

10.4.4.2 ON

Backlight is always switched on.

10.4.4.3 AUTOMATIC

Backlight is switched on for 5 seconds with each keystroke and timing impulse.

10.5 INTERFACE

Settings for the RS232 and scoreboard interface. Some settings are only available in certain programs.

10.5.1 DISPLAYBOARD

These are settings for ALGE LED displays.

- <**CONTRAST**> adjusts the brightness (0 – 9) of the LED display board
- <**TIME + DATE>** internal time and date of scoreboard is synchronized
- **<DISPLAY MODE>** without function
- **<BAUDRATE>** standard is **2400,** the baud rate of the TIMY3 and also of the scoreboard is set
- **<TIMEOUT>** period after which the display switches to time of day
- **<ADRESS>** address for LED display board
- **<SAFETY CAR>** display mode permanent or flashing
- **<LAPS>** number of laps
- **<CTD→LAP>** manual or automatic
- **<FORMAT>** output of time of day or play time

10.5.2 RS232

These are settings of the RS232 of the TIMY3.

- **<MODE>**
- **<BAUDRATE>** standard is **9600**
- **<SENDE MEMORY>** sends the memory contents of the TIMY3.
- **<HANDSHAKE>**
- **<TRACK-MODE>** norm or ident: change output format (program Track-timer)
- **<TIMY<->TIMY>** communication between two TIMY3

10.5.3 GSM-MODEM

These are settings of the modem communication of the TIMY3.

- **<ENTER NR>** enter the number to dial
- **<SEARCH MODEM >** search a connected modem
- **<PIN CODE>** enter the SIM card pin code
- **<STOP GSM-MODEM>** disconnect the connection
- **<MEMORY → SMS** send the memory by SMS

10.6 PRINTER

This menu is for setting the printer parameters.

10.6.1 PRINTER-MODE

- **<PRINTER OFF>**
- **<PRINTER ON >** **Standard**
- **<PAUSE>** Printer stops and times will be saved. Times are printed when printer is switched on again.

10.6.2 PRINT STARTTIME

- **< OFF>** **Standard**
- **< ON >**

10.6.3 AUTO LINE FEED

- **<0>** 0 is standard, enter 0 - 9

10.6.4 START-LOGO

- **<OFF>**
- **<ON>** standard

10.6.5 PRINT DAYTIME

- **<OFF>**
- **<ON>** standard

10.7 PROGRAM

This function allows switching to another program.
ATTENTION! When changing the program all saved times will be deleted!

10.8 Program Specific Settings

Depending on active program this menu item is different.

10.9 WTN

The ALGE WTN is a compact radio system for timing. A radio network consists of several devices of the WTN-series. Within the network, devices can communicate with each other using other devices; i.e. the communication is carried out from one device to another through a third one. The network is intended for simultaneously transmitting display data (e.g. for ALGE GAZ or D-LINE), serial RS232 data (e.g. to a PC) and timing impulses.
The system is designed in such a way that the TIMY3 is at the same time master and time server. Therefore, you should pay attention to the following facts:

1. The TIMY3 should always be switched on as first device so that all participants can synchronize with it.
2. During the operation the TIMY3 should not be switched off and on. This would require a resynchronization which could lead to the loss of timing impulses during the first 5 minutes.

In this menu item, the WTN specific settings can be executed (further explanations see also Manual WTN).

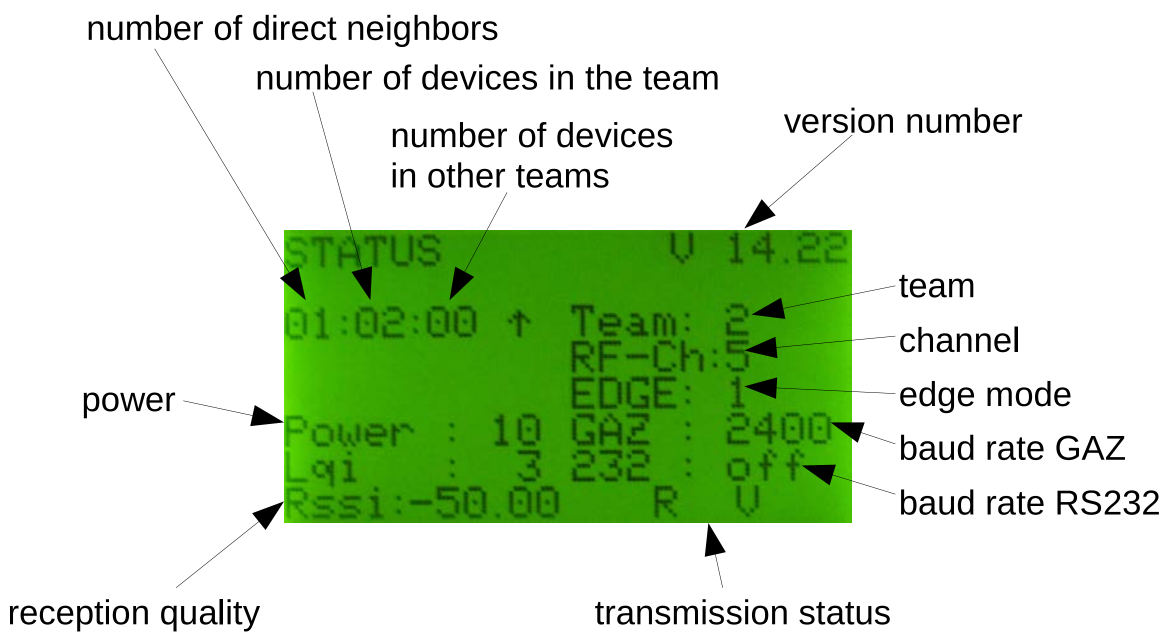
A TIMY2 with an external WTN can be operated in nearly an identical way as a TIMY3.
However, there are 2 essential differences:
The TIMY3 can switch off the WTN module in order to save energy.
The channels of the TIMY2 with extern WTN module are physically triggered. This means that triggering the channels would also exist on the banana sockets. This is not the case for the TIMY3.

10.9.1 WTN POWER

This is for switching on and off the internal WTN module. For energy saving reasons, the module is deactivated by default. In order to use the functions of the WTN, the module must first be turned on.

- **<OFF> Standard**
- **<ON>**

10.9.2 STATE



10.9.3 SETTINGS

- **<RADIO POWER>** 10 (standard), 25, 50 100 mW
- **<RS232>** OFF, ON (standard)
- **<EDGE>** ↑ only rising, ↑+↓ rising and falling
- **<WTN-UPDATE>** OFF, ON (standard)
- **<RF-UPDATE>** ON, OFF (start with F0 and cancel with F1); at least one participant must be connected
- **<PULSE HOLD>** if a channel is constantly triggered during this time the Timy3 shows a message, changes with keys up/down, OK and 0-9

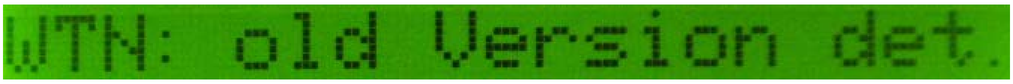


- **<STANDARD>** settings are reset to standard settings

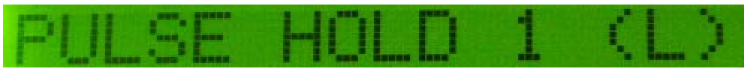
10.9.4 TEAM

Settings of the team (1-9 A-F) – see also Manual for WTN

10.9.5 Error Messages



An old version was identified within the network. Please update your WTN devices by pressing: Menu->WTN->Settings->RF Update. This can take 15-45 minutes, depending on the WTN Version of the devices. Do not switch off the devices during this process.



A channel is constantly triggered, e.g. when a photocell is misaligned. You can setup the time for each channel under Menu->WTN->Settings->Pulse hold. Set 0 to disable this message.

Check 0.1sec correction
The time correction for the channel was set to 0.0 and a delayed packet was received by radio. Please setup the time correction of the channel to -0,1s.

10.10 KEYBOARD-LOCK

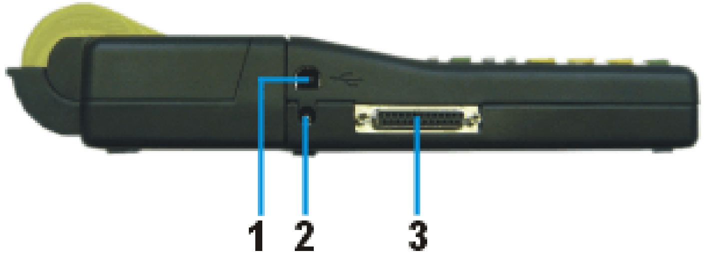
This is for activating the keypad lock in order to prevent accidental entries. All keys of the TIMY3 are disabled. To enable the keyboard lock enter 1 2 3 4 5 6.

11 Technical data

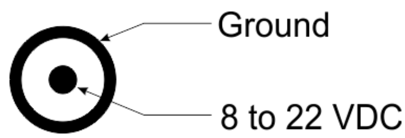
Processor:	Siemens C161 with 3.3 V technology
Time reference:	12.8 MHz TCXO or standard quartz
Time resolution:	1/10 000 seconds
Running precision:	**Temperature compensated quartz oscillator TCXO:** temperature range -25 to 50 °C:........+/- 2.5ppm (+/- 0.009 sec/h) at aging:...max. +/- 1 ppm per year at 25°C, calibrated ....+/- 0.3 ppm
Program Memory:	FLASH memory with 16 MBit
Data Memory:	RAM with 4 MBit, approx. 30 000 times
Display:	monochrome LCD graphic display 128 x 64 pixels with extended temperature range and backlight
Keypad:	silicone keypad, 26 buttons
Connections:	DIN-plug for photocell (7) banana plug pair – start input (5) banana plug pair – finish input (6) banana plug pair – display board (4) D-sub-25 pin (3) • 9 timing channels • RS232 (PC-connection) • display board • RS485 (network) • power supply (8 - 22 VDC in / 7.5 - 21 VDC out) USB (1) power supply 8 - 22 V DC in (2)
Channel extension:	5 channels per extension, max. 99 channels
Power supply:	**Internal:** NM-TIMY2 battery pack or 6 x AA-Alkaline 2 Ah (only for TIMY3 XE) **External:** with charger PS12A, PS12 and 12 V battery or 8 -24 VDC
Operating time:	Alkaline: without printer about 50 hours NM-TIMY2: without printer about 60 hours at 20° C NM-TIMY2: with printer (3 printed lines per minute) about 47 hours at 20° C
Charging:	approx. 18 hours
Printer:	graphic thermal printer, max. 6 lines per second
Temperature range*:*	TIMY3 W and WP: -20 to 60°C
Dimensions:	TIMY3 W: 204 x 91 x 50 mm TIMY3 WP: 307 x 91 x 65 mm
Weight:	TIMY3 W: 450 g (without battery) TIMY3 WP: 650 g (without battery and paper)

11.1 Pin Assignment

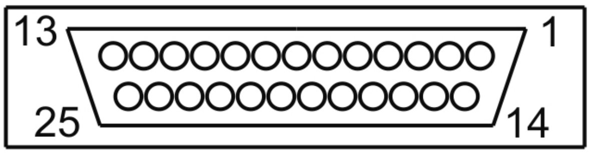
USB-Interface (1):
The USB-interface is used as interface between TIMY3 and computer. Via this interface the TIMY3 can completely be controlled and all data can be recalled.

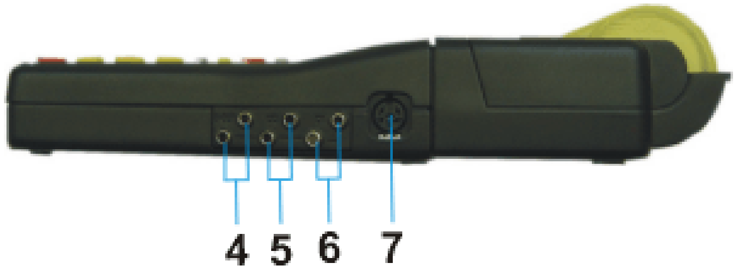


Charger Connection (2):



ALGE-Multiport (3):
Pin assignment:
1......... .... terminal numbering connection
2.........c0....... start channel (precision 1/10 000 s)
3.........c2....... timing channel 2 (precision 1/10 000 s)
4.........c3....... timing channel 3 (precision 1/10 000 s)
5.........c7....... timing channel 7 (precision 1/100 s)
6......... .... data output for display board
7......... .... RS485B
8......... .... RS485A
9......... .... clock for terminals CLK
10....... .... RS232 TX
11....... .... RS232 RX
12....... .... common ground GND
13....... .... stabilized voltage out (+5V)
14.......c1....... stop channel (precision 1/10 000 s)
15.......c5....... timing channel 5 (precision 1/10 000 s)
16.......c8....... timing channel 8 (precision 1/100 s)
17.......c6....... timing channel 6 (precision 1/100 s)
18.......c4....... timing channel 4 (precision 1/10 000 s)
19....... .... RS232 RTS
20....... .... printer data out
21....... .... horn output 8 Ω
22....... .... RS232 CTS
23....... .... power supply out: 7.5 - 21 VDC
24....... .... common ground GND
25....... .... power supply in: 8 - 22 VDC





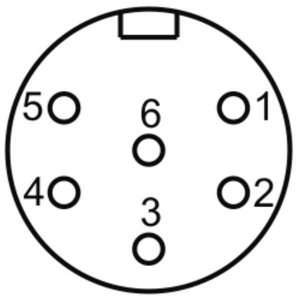


Banana plugs for display board (4)
Banana plugs for start channel C0 (5)
Banana plugs for stop channel C1 (6)

Photocell socket (7)

Pin assignment:

1............c0..........start channel
2............c1..........stop channel
3............GND......common ground
4............+Ua ......power supply out 8-22 VDC
5............+5V ......stabilized voltage out (+5 VDC)
6............c2..........intermediate time channel



12 Interfaces

12.1 RS232 Interface

Output format: 1 start bit, 8 data bit, no parity bit, 1 stop bit
Bit rate: 9 600 baud factory setting
adjustable: 2400, 4800, 9600, 19200, 28800, 38400
Transmission protocol: ASCII

yNNNNxCCCxHH:MM:SS.zhtqxGGRRRR(CR)

y .... first sign is blank or info (see below)
x .... blank
NNNN........................ start number, max. 4-digit, any pre-zero is not shown
CCC .... channels of timing device
c0 .... channel 0.......... start channel
c0M .... channel 0 .... triggered by keypad <START>
c1 .... channel 1.......... finish channel
c1M .... channel 1.......... triggered by keypad <STOP>
c2 .... channel 2
c3 .... channel 3
c4 .... channel 4
c5 .... channel 5
c6 .... channel 6
c7 .... channel 7
c8 .... channel 8
RT .... run time
TT .... total time
SQ............................. sequential time (lap time)
kmh .... speed measurement (possible displays: km/h, m/s, mph)
HH:MM:SS.zhtq......... time in hours, minutes, seconds and 1/10 000 seconds
GG .... group, lap or blank
RRRR........................ rank (only available in 'classement' menu)
(CR) .... carriage return

Info – the following figures may be in first position:

x .... blank
?................................ time without valid start number
m.............................. time from memory
c .... times deleted (e.g. with CLEAR button)
C .... memory time deleted (e.g. with CLEAR button)
d................................ times deleted due to disqualification
i .... manually entered time with <INPUT>
n................................ enter new start number

Example of a RS 232 interface output (e.g. program backup)

```
  0001 c0  15:43:49,8863 00
  0002 c0  15:43:50,1647 00
  0005 c1  15:43:51,6464 00
  0006 c0  15:43:51,9669 00
  0007 c1  15:43:52,2467 00
  0008 c0  15:43:52,4579 00
  0009 c1  15:43:52,6941 00
  0015 c0M 15:43:55,6200 00
  0016 c1M 15:43:55,8800 00
  0019 c0M 15:43:57,020  00
m 0007 c0  15:43:59,9927 00
m 0008 c1  15:44:00,2849 00
m 0009 c0  15:44:00,5499 00
m 0010 c1  15:44:00,8182 00
m 0011 c0  15:44:01,0366 00
C 0011 c0  15:44:01,0366 00
n 0014 c0  15:44:01,0366 00
  0020 c0  15:44:15,0077 00
  0022 c0  15:44:15,5165 00
  0023 c1  15:44:15,7847 00
c 0023 c1  15:44:15,7847 00
i 0023 c1  15:44:15,7847 00
```

Command set Timy	V2.9	takes effect from V 09B3	19.11.2009	green=already built in													
meaning	syntax	parameter	example	syntax description	Backup	PC-Timer	Stopwatch	Tracktimer	Training Light	Training Ref	Laptimer	Cyclestart	Commander	Speed	Windspeed	Terminal	Dualtimer
Alge-Standard	AS		AS	set													
enter bib	#	4 digits	#1234	enters a bib over serial port or usb	x	x		x	x	x	x	x	x	x			
enter bib	#	1234<b,l,r>	#1234b #1234l	bib for blue/left parcour													x
enter bib	#	1234<b,l,r>	#1234r	bib for red/right parcour													x
enter bib	#	1234C<0 or 1>	#1234C0 #1234C1	bib for start (C0) or finish (C1)			x										
only for gsm-modem	+	Only the gsm-modem can send this to the Timy, and then some further commands are following.															
automatic time min	AZN	HH:MI:SS	AZN12:00:00 AZN?	request, set					x					x			
automatic time max	AZX	HH:MI:SS	AZX12:00:00 AZX?	request, set					x					x			
beep	BE	0 or 1	BE0 BE1BE?	request, on off	x	x	x	x	x	x	x	x	x	x	x		x
User-Prog-Update	BWF		BWF	than update-file	x	x	x	x	x	x	x	x	x	x	x		x
User-Prog-Update	USB-Timy:BWF!!!!		USB-TIMY:BWF!!!!	than update-file	x	x	x	x	x	x	x	x	x	x	x		x
Classement memorytime	CALMT		CALMT	Classement memorytime			x										x
Classement runtime	CALRT		CALRT	Classement runtime			x										x
Classement totaltime	CALTT		CALTT	Classement totaltime			x										x
Cyclestart-Signal 1	CY1		CY1?	request says e.g. 35E 47A													
Cyclestart-Signal 2	CY2		CY1E59	signal 1 59s ON													
Cyclestart-Signal 2	CY2		CY2A19	signal 2 19s OFF													
Cyclestart-Signal 3	CY3		CY3E,A	signal ON or OFF													
Cyclestart-Signal 3	CY3		CY3E33	signal3 33s ON													
Cyclestart countdowntime	CYC		CYC?,0:00.0-9:59.9	request, 0:00.0 bis 9:59.9													
Cyclestart number of rounds	CYR		CYR?,000,999	request, 000 - 999													
display delaytime1	DIT1	00 to 99	DIT103 DIT1?	request, set	x	x	x	x	x	x	x	x	x	x			x
display delaytime2	DIT2	00 to 99	DIT299 DIT2?	request, set	x	x	x	x	x	x	x	x	x	x			x
delaytime finish and intermediate	DTF	00.01 to 59.99	DTF00.03 DTF?	request, set	x	x	x	x	x	x	x	x	x	x			x
delaytime start	DTS	00.01 to 59.99	DTS09.99 DTS?	request, set	x	x	x	x	x	x	x	x	x	x			x
builds up a Timy2Timy connection	DIRECT	Only if 2 Timys are connected over a serial cable, Timy1 sends this to Timy 2 to build up a connection					x										
Disconnect the Timy2Timy connection.	DIS	Only if 2 Timys are connected over a serial cable, Timy1 sends this to Timy 2 to disconnect.					x										
controls the prog. Football	FOOTBALL												x				
defines the channel pattern for Timy2Timy connection.	KAMU	Only for a Timy2Timy connection, can define which Timy can enable which channels					x										
KEYBOARD_LOCK ???	KL	0 or 1	KL0 KL1 KL?	request, on off	x	x	x	x	x	x	x	x	x	x	x		x
Laptimer gaz mode	LA	T or R	LAT LAR LA?	request,T=totaltime,R=laptime							x						
Subset of Timy-data-chain	M		MRER													x	
version of user-prog	NSF		NSF?	sends NSFV03B2	x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	CARRIER		CARRIER	timy changes to binary mode	x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	CONNECT 9600		CONNECT 38400	timy changes to binary mode	x	x	x	x	x	x	x	x	x	x	x		x
MODEM sends without CR	+++		+++	timy changes to command mode	x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	NO CARRIER		NO CARRIER	disconnected	x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	NO DIALTONE		NO DIALTONE	modem sends the error-message	x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	CPIN		CPIN		x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	OK		OK	modem confirmed the last command	x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	ERROR		ERROR	modem didn't confirm the last command	x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	ATH		ATH		x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	AT\x5cQ3		AT\x5cQ3	modem has set to rts/cts-handshake	x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	REVISION		REVISION	modem is present	x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	NPL-1		NPL-1	modem is present	x	x	x	x	x	x	x	x	x	x	x		x
ONLY the MODEM sends this	RING		RING	timy answers with ATA<CR>	x	x	x	x	x	x	x	x	x	x	x		x
ONLY the GPS-Device sends this	GPRMC	only the gps-device can send this data-string in order to synchronize the timy to the exactly daytime															
ONLY the GPS-Device sends this	PGRMF	only the gps-device can send this data-string in order to synchronize the timy to the exactly daytime															
precision	PRE	0,1,2,3 oder 4	PRE0 PRE?	0=Sec, 1=Tenth,.. 4=TenThousandth	x	x	x	x	x	x	x	x		x			x
PRINTER-AUTO-LF	PRI_AF	0 to 9	PRI_AF3	Printer AutoLineFeed 0 to 9	x	x	x	x	x	x	x	x	x	x			x
PRINTER	PRINTER	0 or 1	PRINTER0,PRINTER1	request, on off	x	x	x	x	x	x	x	x	x	x	x		x
PRI	PRI	0 or 1	PRI0 PRI1 PRI?	request, on off	x	x	x	x	x	x	x	x	x	x	x		x
print a linefeed	PRILF		PRILF	set	x	x	x	x	x	x	x	x	x	x	x		x
print the logo	PRILO		PRILO	set	x	x	x	x	x	x	x	x	x	x	x		x
print memory	PRIM		PRIM	print memory	x	x		x	x	x	x	x	x	x			
ignore timing impulses to print	PRIIGN	0 or 1	PRIIGN0,PRIIGN1,PRIIGN?	set off, set on, request	x	x	x	x	x		x	x	x	x			x
print start	PS	0 or 1	PS0 PS1 PS?	request, on off			x										x
name of the current active program	PROG	?	PROG?	what's the current program ?	x	x	x	x	x	x	x	x	x	x	x	x	x
		answer:PROG: Name<cr>	The name of the active program may differ.		x	x	x	x	x	x	x	x		x	x	x	x
		answer:PROG: ---<cr>	No program was choosen yet.		x	x	x	x	x	x	x	x		x	x	x	x
		answer:PROG: COMMANDER,SUB:SubName<cr>		COMMANDER has many sub programs									x				
rounding	RR	0,1 or 2	RR0 RR1 RR2 RR?	request, 0=Cut, 1=Up, 2=Round			x	x	x	x	x	x		x			x
rs232 baudrate	RSBD	24,48,96,19 or 38	RSBD96 RSBD?	request, set	x		x	x	x	x	x	x	x	x	x		x
send memory to rs232	RSM		RSM	send memory to rs232	x	x	x	x	x	x	x	x	x	x			x
runtime at rs232	RSRT	0 or 1	RSRT1, RSRT0				x										x

running tenth	RT	0 or 1	RT0 RT1 RT?	request, on off	x												
stn automatic for finish	SAF	0,1 or 2	SAF0 SAF1 SAF2	request, 0 = off,1=start,2=finish			x										x
stn automatic for start	SAS	0,1 or 2	SAS0 SAS1 SAS2	request 0 = off,1=Up,2=Down			x							x			x
START_LOGO	SL	0 or 1	SL0 SL1 SL?	request, on off	x	x	x	x	x	x	x	x	x	x	x		x
second mode	SM	0 or 1	SM0 SM1 SM?	request, set			x										x
Speed distance in meters	SPDI	0000.1 to 9999.9 or 0001 to 9999 or ?	SPDI0100<cr> SPDI0100.5<cr>	request, set										x			
Speed direction	SPDR	0,1 or 2	SPDR0,SPDR1	request,0=both,1=C0->C1, 2=C1->C0										x			
Speed Unit	SPU	0,1 or 2	SPU0, SPU1, SPU2	request,0=km/h, 1=mi/h, 2=m/s										x			
Speed minimum	SPMI	0000.1 to 9999.9 or 0001 to 9999 or ?	SPMI0000.1	set, request = SPMI0000.1 always XXXX.X										x			
Speed maximum	SPMX	0001.0 to 9999.9 or 0001 to 9999 or ?	SPMX0200.0	set, request = SPMX0200.0 always XXXX.X										x			
Speed Print Times	SPTI	0 or 1	SPTI1, SPTI0	request, set										x			
Only for the communication with the OPTIC-device.	SP2	Only for the communication between the OPTIC and the Timy.															
Advanced subset of data-chain	TER		TERFFER													x	
initialize the timy, gets HW-ID	TIMYINIT		TIMYINIT	gets the hardware-id of the Timy	x	x	x	x	x	x	x	x	x	x	x		x
Delaytime for a specific channel	DTC	? Or #12.34 (while # = 0 to 8)	DTC401.78	request, set		x											
Direct transmission to printer	DTP	max. 24 characters	DTPHelloWorld	LOOK FURTHER BELOW	x	x	x	x	x	x	x	x	x	x	x	x	x
cleares the memory	CLR		CLR		x	x											
enables or disables the checksum	CHK	?,0 or 1	CHK?,CHK1,CHK0	request, set		x											
send time every s or thenths or not	EMU	?,0,1 or 2	EMU?,EMU0,EMU2	request, set		x											
send memory from pos. a to b	RSP	aaaaabbbbb	RSP0001000500	gets the memory from pos 10 to 500	x	x											
send memory from STN a to b	RSS	aaaaabbbbb	RSS0002000020	gets the memory form stn 20 (to 20)	x	x											
Send memory universal A	RSUA	Caaaabbbb	RSUA100109999	C=0..9 or A,aaaa=stnfrom,bbbb=stn_end			x										
			All times, having channel 1 and stn >= 10 and stn <=9999 are sent.														
			RSUAA00000020	All times having stn <= 20 are sent.													
Send memory universal B	RSUB	Caaaaaaaaaaabbbbbbbbbb		daytime_from until daytime_end			x										
			RSUBA0000000000230000000(	All times, having daytime <= 23:00:00.0000 are sent													
Special command	SPEC			request, set			x										
			SPEC?	SPEC:STOPWATCH:$A0$B0$C0													
		Timy to Timy connection over RS232	SPEC:STOPWATCH:$A1	start-bib will be sent to rs232/usb; "s1234cr>"													
		Timy to Timy connection over RS232	SPEC:STOPWATCH:$A0	start-bib will not be sent, default after an update													
This command should be sent over usb		Timy to Timy connection over RS232	SPEC:STOPWATCH:$B0	0 == default:not bib is accepted over an TIMY2TIMY-connection													
This command should be sent over usb		Timy to Timy connection over RS232	SPEC:STOPWATCH:$B1	1 == START-BIB is accepted, in the format "#1234C0\r"													
This command should be sent over usb		Timy to Timy connection over RS232	SPEC:STOPWATCH:$B2	2 == FINISH-BIB is accepted, in the format "#1234C1\r"													
This command should be sent over usb		Timy to Timy connection over RS232	SPEC:STOPWATCH:$B3	3 == START+FINISH BIB both are accepted													
This command should be sent over usb		Timy to Timy connection over RS232	SPEC:STOPWATCH:$C0	0 == default:no bib will be sent													
This command should be sent over usb		Timy to Timy connection over RS232	SPEC:STOPWATCH:$C1	1 == START-BIB will be sent													
This command should be sent over usb		Timy to Timy connection over RS232	SPEC:STOPWATCH:$C2	2 == FINISH-BIB will be sent													
This command should be sent over usb		Timy to Timy connection over RS232	SPEC:STOPWATCH:$C3	3 == START+FINISH BIB both will be sent													
		But the start-bib will only be sent, if the command was sent to the Timy once in advance "SPEC:STOPWATCH:$A1<cr>"															
synchronize the Timy	SYNA	hh:mm:ss.zhtZ	SYNA12:00:00.0000	automatically sync	x	x											
	SYNM	hh:mm:ss.zhtZ	SYNM00:30:00.0000	manually sync, waits for sync-impulse	x	x											
	SYND	YY:MM:DD	SYND04-10-31	enter the sync date, takes only effect	x	x											
				when SYNM is followed													
Send start time	SST	NNNN C0 hh:mm:ss.zhtZ RR	SST 1234 C0 12:34:56.7890 00	NNNN=Startnumber, hh=hour,mm=minutes			x										x
				ss=seconds, zhtZ=4 digits of second's fraction													
				RR = always 00													
Direct transmission to printer	DTP	max. 100 characters	DTPHelloWorld		x	x	x	x	x	x	x	x	x	x	x	x	x
Show the list of the commands	HELP		HELP	Timy shows the list of the supported comn	x	x	x	x	x	x	x	x	x	x	x	x	x
	HELP	if the StatusValue is 0 or 0x0000 then the command is currently not supported															
standard baudrate	**9600 baud**																
syntax for command and parameter	ASCII																
Hardware-Handshake	not built in, later possible (RTS/CTS)																
Software-Handshake	not built in, later possible (XON/XOFF)																
command not supported	send back NOT																
command understood	send back the command without parameter																
command with ?	send back the command with parameter																
command not understood	send back nothing																
command with unvalid parameters	send back nothing																
safe communication																	
If the pc has sent a command to the Timy, the pc has to wait for																	
the acknowledge, before sending the next command.																	
Acknowledge means that the sent command must be returned from the Timy.																	
Each command can be sent by rs232 or USB.																	
For programming the usb-interface, use only the Alge-OCX-File.																	
Note: If you see <cr> at an example, please be aware that this is only one character not 4 characters.																	

12.2 RS485 Interface

This interface is only used for special applications such as wind speed measurement, TIMY3 Terminal etc.

12.3 Interface for Display Board

Output format: 1 start-bit, 8 data-bit, no parity-bit, 1 stop-bit
Bit rate: factory setting: 2400 baud (necessary for ALGE GAZ display board)
2400, 4800, 9600, 19200, 28800, 38400
Transmission protocol: ASCII

`NNN.xxxxxxxxM:SSxxxx(CR)` .... Running time (without 1/10 seconds)
`NNN.xxxxHH:MM:SSxxxx(CR)` .... Running time (without 1/10 seconds)
`NNN.xxxxHH:MM:SS.zxx(CR)` .... Running time (with 1/10 seconds)
`NNNCxxxxHH:MM:SS.zhtRR(CR)` .... Channel C1 finish time with rank
`NNNCxxxxHH:MM:SS.zhtxx(CR)` .... Channel C1 finish time without rank
`NNNDxxxxHH:MM:SS.zhtRR(CR)` .... Channel C1 total time with rank
`NNNDxxxxHH:MM:SS.zhtxx(CR)` .... Channel C1 total time without rank
`NNNAxxxxHH:MM:SS.zhtRR(CR)` .... Channel C2 1. intermediate time
`NNNBxxxxHH:MM:SS.zhtRR(CR)` .... Channel C3 2. intermediate time
`NNNExxxxHH:MM:SS.zhtRR(CR)` .... Channel C4 3. intermediate time
`NNNFxxxxHH:MM:SS.zhtRR(CR)` .... Channel C5 4. intermediate time
`NNNGxxxxHH:MM:SS.zhtRR(CR)` .... Channel C6 5. intermediate time
`NNNHxxxxHH:MM:SS.zhtRR(CR)` .... Channel C7 6. intermediate time
`NNNIxxxxHH:MM:SS.zhtRR(CR)` .... Channel C8 7. intermediate time
`NNNSxxx©xxxxsxss.ssxRR(CR)` .... Speed

NNN .... Start number (hundreds, tens, ones - digit 1 to 3)
. ... a point on the fourth digit is the identification for a running time
HH:MM:SS.zht .... time in hours, minutes, seconds and 1/1000 seconds
© .... speed measurement: output of following ASCII signs: 01 hex for km/h, 02 hex for m/s, 03 hex for mph
RR.......................... rank
x............................. blank
(CR) .... carriage return

13 USB Interface

Currently possible applications for USB interface:

- update the TIMY3 software with installation manager or TIMY3 USB program
- query and change of settings (as RS232)
- recording of times with program ComtoFile
- evaluation with program Time.NET
- evaluation with program Excel Writer